Transillumination of the Occult Submucous Cleft Palate- Shining Light on a Diagnostic Technique

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Purpose

Submucous cleft palate is a congenital deformity characterized by deficient union of the muscles that normally cross the velum and aid in elevation of the soft palate. Unlike overt submucous cleft palate, occult submucous cleft palate lacks clear external anatomic landmarks while still exhibiting insufficient median muscle interdigitation and abnormal function (Figure 1). This absence of anatomic markers makes the diagnosis of occult submucous cleft less obvious, more dependent on ancillary tests, and potentially missed entirely. Current diagnostic methodologies are limited and often are unrevealing, however a missed diagnosis of occult submucous cleft palate can result in velopharyngeal insufficiency (VPI) and major functional impairment in patients following surgery on the oropharynx. By accurately and easily identifying occult submucous cleft palate, it is possible to defer or modify pharyngeal surgical intervention that may further impair velopharyngeal function in susceptible patients.

Methods and Materials

In this report, we introduce transillumination of the soft palate as a simple technique for submucous cleft palate identification, illustrate its use in the pre-operative patient work-up in comparison to other diagnostic methods, and describe its utility in a patient case. As part of assessing patients undergoing oropharyngeal surgery, a flexible fiberoptic nasopharyngoscope is routinely used to examine the velum, oropharynx and hypopharynx. We propose that the same scope be used to improve diagnosis of occult

submucous cleft palate through transillumination. Following introduction of the scope through the nose or mouth, the lighted distal end of the scope should be directed anteriorly as to provide a backlight for the soft palate (Figure 2).

Conclusions

Occult submucous cleft palate is a frequently missed diagnosis that is often not recognized until a patient develops symptoms of VPI. As illustrated in our patient, the appearance of VPI symptoms following routine surgery can be debilitating for the patient and defeating for the surgeon in cases of missed occult submucous cleft. In patients undergoing oropharyngeal surgery, transillumination of the palate is an inexpensive, quick, and easily incorporated technique that can screen for undiagnosed occult submucous cleft palate and decrease the incidence of iatrogenic VPI post-operatively.

Figure 1: Musculature of the normal velum and the occult submucous cleft palate.

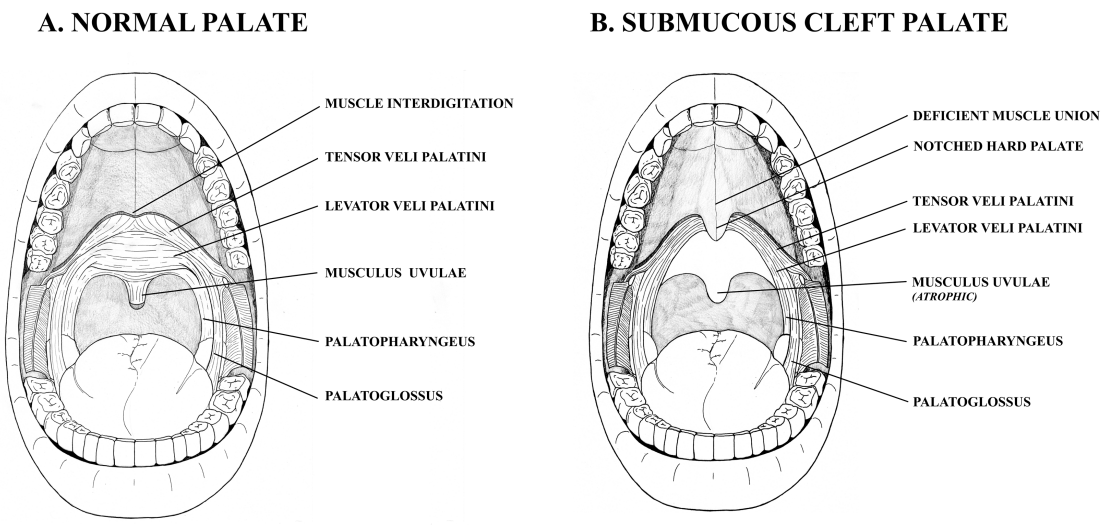

Figure 2: Transillumination of a patient with submucous cleft palate. Note the central translucency and incongruity of velopharyngeal musculature.